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Research Article

Speech-Language Therapists' Training, Confidence, and Barriers When Serving Bilingual Children: Development and Application of a National Survey

Meaghan McKenna,[a] Xigrid Soto-Boykin,[b] Anne Larson,[c] and Diana Julbe-Delgado[d]

[a] Department of Speech and Hearing Science, University of Illinois Urbana–Champaign [b] Children's Equity Project, Arizona State University, Tempe [c] Center for Applied Research and Educational Improvement, University of Minnesota, Minneapolis [d] College of Rehabilitation Sciences, University of St. Augustine for Health Sciences, FL

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ABSTRACT

Purpose: Most pediatric speech-language therapists (SLTs) will serve bilingual children. This article reports findings from the *National Survey of SLTs' Training, Confidence, and Barriers When Serving Bilingual Children*. This survey was created for SLTs to self-report training, confidence, and barriers when assessing and delivering interventions to bilingual children.
Method: The 58-question survey was developed using commonly accepted procedures for questionnaire development to establish content validity: (a) identification of the purpose of the survey, (b) creation of a blueprint of items, (c) expert panel review, and (d) cognitive interviews with end-users. Upon completing initial development, 567 bilingual and monolingual SLTs responded to survey items. Internal structure validity was assessed using a confirmatory factor analysis. A three-factor model with the following dimensions—linguistically matched, not linguistically matched, and barriers when not linguistically matched—resulted.
Results: Descriptive findings uncovered an ongoing need for SLTs to receive training to support bilingual children on their caseload, especially to communicate with families who speak languages other than English and embed children's home language in therapy sessions. While bilingual SLTs were more confident in serving bilingual children than monolingual SLTs were, both groups identified inadequate resources, along with other barriers that impacted their perceived confidence and competence.
Conclusions: Survey results reveal the continued need to support preservice and practicing SLTs to enhance their competence and confidence when assessing and treating bilingual children. The findings from the present study have the potential of informing American Speech-Language-Hearing Association's leadership, institutes of higher education, and continuing education initiatives.
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Since 2020, the fields of speech-language therapy and other child-serving professions have articulated a common goal of ensuring practitioners are equipped with the skills, attitudes, and resources to provide children with services that are linguistically and culturally sustaining. Implementing these culturally and linguistically sustaining practices requires an understanding of various topics, ranging from anti-bias/anti-racist/anti-ableist framings; asset-focused language framings like translanguaging; bilingual language development; how to work with interpreters; how to embed children's home language and cultures; and how to conduct valid bilingual assessments, even when one does not speak the children's home language.

Contrary to common belief, these culturally and linguistically sustaining practices and knowledge cannot only be reserved for bilingual speech-language therapists (SLTs) working in urban areas or states traditionally associated with communities that are diverse and multilingual like

Correspondence to Meaghan McKenna: meaghanm@illinois.edu. ***Disclosure:*** *The authors have no competing financial or nonfinancial interests at the time of publication.*

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New York or Florida. Presently, bilingual children are growing up across the country (National Center for Education Statistics [NCSE], 2019), making it probable that most pediatric SLTs will evaluate and treat children who are bilingual. More than 33% of children between the ages of 0 and 8 years in the United States are bilingual (Annie E. Casey Foundation, 2018), and 10% of school-aged children are emergent bilinguals (labeled *English learners* in education K–12 law; NCSE, 2024). According to the NCSE (2019), 15% of school-aged children who are bilinguals have a disability and receive special education services. The Individuals with Disabilities Education Act (IDEA, 2004) protects these children's civil rights to a free and appropriate public education in the least restrictive environment. IDEA also requires that a child's bilingual status be considered when determining special education eligibility using "nonbiased assessments" and that parents have an interpreter during Individualized Family Service Plan/Individualized Education Program meetings.

Ideally, IDEA could be upheld by a linguistically, culturally, and racially diverse SLT workforce who were experts on bilingualism and who matched children's languages and cultures. Unfortunately, the large proportion of culturally and linguistically diverse and bilingual children in the United States is unmatched by a primarily homogenous group of SLTs. In fact, only 9% of the certified American Speech-Language-Hearing Association (ASHA) members identify with racially or linguistically minoritized groups (ASHA, 2023). Currently, language data are not collected in the annual Members and Affiliate Profile survey so there is no way to ascertain the exact number of SLTs who are bilingual. To address the limited linguistic and cultural diversity of SLTs, many researchers and SLT leaders recommend increasing the diversity of the workforce (Guiberson & Vigil, 2021). While this is an important and worthy effort, focusing on diversifying the field alone is not enough. For example, having a bilingual SLT in a school does not guarantee they can competently assess a child who does not speak one of the SLTs' languages or that they share the same cultural background as the children they serve. Therefore, in addition to diversifying the workforce, there needs to be comprehensive initiatives to ensure that all SLTs—regardless of whether they are monolingual or bilingual—have the competence and training to effectively work with bilingual children and their families.

ASHA's Resources to Support SLTs

ASHA's practice guidelines for assessing and treating bilingual children and adults include collaborating with interpreters, selecting appropriate assessments, and understanding bilingual language development (ASHA, n.d.-c). Despite initiatives to increase SLTs' capacity to serve bilingual children (ASHA Multicultural Affair and Resources, n.d.), there remains a discrepancy between practice recommendations and clinicians' reported confidence when serving bilingual children (Arias & Friberg, 2017). Guiberson and Atkins (2012) found that only 51% of SLTs felt confident assessing and treating bilinguals, and even fewer (40%) reported receiving any training on bilingual assessment and second language acquisition. It is important to acknowledge that in previous surveys of SLTs' training, the term *confidence* has been used as a proxy of competence. In this article, we also use the term *confidence* as a proxy for competence, as directly measuring SLTs' practices was outside the scope of our study. However, it is important to note that it is possible for a clinician to be confident and still conduct assessments and interventions incorrectly. There is a need for studies to directly observe the relationship between SLTs' perceived confidence and actual practices. Nevertheless, the results of previous studies underscore the continued need for increased SLT training at the preservice and professional level.

SLTs' Professional Certification and Program Accreditation Standards

Professional certification requirements and program accreditation standards are important levers to create positive, systemic change, as they set the precedent for what fields consider priorities and nonnegotiables. For SLTs, ASHA's certification requirements and its program accreditations are the most important levers in which meaningful, large-scale change can be created and sustained. Unfortunately, while ASHA's speech-language pathology certification requirements and program accreditation standards have significant strengths, they are not as comprehensive when it comes to bilingualism. For example, ASHA's (n.d.-a) Speech-Language Pathology Certification Standards is the primary guidance on the skills that SLTs need to earn their Certificate of Clinical Competence. Currently, the standards do not have requirements for SLTs to learn about bilingual language development, communication disorders in bilingual populations, or bilingual assessments. Similarly, the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA), ASHA's program accreditation standards, address diversity, equity, and inclusion, but there is no specific requirement for bilingual assessment and intervention (ASHA, n.d.-b).

When conducting a policy analysis of SLTs' certification requirements and program accreditation standards in the United States and Canada, Perez Valle et al. (2023) found that neither set of standards addressed deeper skills needed to assess and treat bilingual children, including how to work with interpreters during assessment and

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intervention, how to embed children's home languages and cultures when the SLT does not share the language or culture of the child and when interacting with families, or how to apply asset-focused framings of bilingualism. The findings from this policy review highlight that although licensure requirements address some best practices related to the assessment and intervention of bilingual children, they lack the depth and precision necessary for SLTs to be fully competent when working with bilinguals.

To better address this significant area of need in our field, it is important to first explore SLTs' current practices and challenges when assessing and treating bilingual children. The purpose of this present study is to report the findings of a national survey examining SLTs' training, confidence, and barriers when assessing and treating bilingual children. These findings have the potential of informing ASHA's leadership, higher education programs, and continuing education initiatives for SLTs across the United States.

Previous Surveys of SLTs Serving Culturally and Linguistically Diverse Children

Over the last two decades, researchers have conducted surveys to identify SLTs' training, barriers, and confidence when working with individuals who are bilingual, as well as culturally diverse (e.g., Guiberson & Atkins, 2012; Hammer et al., 2004; Kritikos, 2003). Specifically, these surveys have addressed two main topics: (a) SLTs' practices when assessing bilingual children and their alignment with ASHA's recommendations and IDEA (i.e., Arias & Friberg, 2017; Caesar & Kohler, 2007; Dubasik & Valdivia, 2021; Kritikos, 2003) and (b) SLTs' confidence, training, and barriers when working with bilingual children and their families (i.e., Hammer et al., 2004; Kimble, 2013; Parveen & Santhanam, 2021; Roseberry-McKibbin et al., 2005).

Regarding SLTs' perceived confidence when working with bilingual children, Guiberson and Atkins (2012) found that whereas 70% of SLTs felt comfortable working with children who were culturally and ethnically different from themselves, only 51% reported feeling confident when working with children who were bilingual or who did not speak English. Kritikos (2003) reported similar results indicating that a large proportion of SLTs indicated they were not confident or somewhat confident (even with the assistance of an interpreter) in assessing the language skills of a child whose language they did not speak. Notably, 72% of bilingual SLTs indicated they did not feel comfortable when assessing children whose language they did not know. A more recent study by Parveen and Santhana (2021) revealed that 50% of bilingual and 30% of monolingual SLTs felt "very competent" when assessing and treating individuals who are bilingual whose language they were unfamiliar with. These findings indicate that continued efforts need to be taken to increase the proportion of SLTs confident about their capacity to assess and treat bilingual children, especially when they do not speak children's home language.

SLTs have reported experiencing significant barriers to their perceived confidence when assessing and treating children whose language or languages they do not speak. Primary barriers to bilingual assessment and intervention included not speaking children's home language (e.g., Guiberson & Atkins, 2012), having limited access to interpreters (e.g., Guiberson & Atkins, 2012; Kritikos, 2003), or having challenges communicating with caregivers (e.g., Kritikos, 2003). For example, Guiberson and Atkins (2012) found that 81% of the 154 school-based SLTs they surveyed indicated that not speaking children's home language was the major barrier to assessing and treating bilingual children. Other barriers include a lack of assessment and intervention materials in languages other than English (e.g., Guiberson & Atkins, 2012), limited knowledge regarding developmental norms in bilingual children (e.g., Arias & Friberg, 2017), lack of administrative support to conduct bilingual assessments (e.g., Arias & Friberg, 2017), and scarce training focusing on bilingualism (e.g., Kohnert et al., 2003). The majority of SLTs reported that they do not know developmental norms in languages other than English, they don't have access to intervention and assessment materials in other languages, and there is limited research on how to conduct bilingual interventions. These findings are important as even when SLTs are abiding by ASHA and IDEA standards by using informal assessments to measure children's bilingual language skills (e.g., Arias & Friberg, 2017), they still experience significant barriers that affect their perceived competence when treating and assessing bilingual children.

In addition to the barriers that SLTs face in the field when working with bilingual children, most report having little formal training specific to bilingualism in their undergraduate or graduate programs. Hammer et al. (2004) found that of the 256 school-based SLTs they surveyed across 41 U.S. states, approximately one third revealed never having training on bilingualism. These findings were similar to those reported by Roseberry-McKibbin et al. (2005), who found that 27% school-based SLTs they surveyed (n = 1,736) had never received training focusing on bilingual assessment and intervention. These findings are also consistent with SLTs working in other countries. Williams and McLeod (2012) found that of the 128 SLTs working in Australia they surveyed, 75% indicated their universities did not prepare them to work with bilingual children. Kritikos (2003) found that for the SLTs who have received training regarding bilingual

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assessment and intervention, most report having lectures in graduate school focusing on distinguishing between language differences and language disorders. Less than 50% of SLTs report having training in the other topics relevant to bilingual assessment and intervention, including differential assessment, communication patterns in different languages, laws associated with bilingual children, and how to work with interpreters. Although Parveen and Santhanam's (2021) survey results were more positive, these authors concluded that the training given to undergraduate and graduate SLTs was still limited. A limited number of SLTs reported having specific training on assessments for bilingual children, how to work with interpreters, and educational laws related to bilingual assessment and intervention. These findings indicate that although the learning opportunities for undergraduate and graduate SLT students have increased in the last decade, there continues to be a need for comprehensive educational initiatives related to bilingual assessment and intervention. While the extant body of literature on SLTs' confidence, training, barriers, and practices when assessing and treating children has provided the field with rich information, few survey studies (e.g., Kritikos, 2003) contain questions asking SLTs to identify helpful approaches to reducing their barriers and increasing their confidence when working with bilingual children.

When asked what types of trainings and resources SLTs would find most helpful when assessing and treating bilingual children, respondents expressed wanting additional seminars and coursework, access to bilingual SLTs, recruitment of more diverse clinicians, and more research articles focusing on bilingualism (Kritikos, 2003). Gathering information about what SLTs would consider most beneficial to support their assessment and intervention of bilingual children is important as ASHA and university programs continue to strive to equip the workforce with the skills necessary to effectively work with children who are linguistically diverse.

Need for Additional Survey Research

The survey studies conducted over the last two decades have garnered helpful information to understand the state of SLTs' training, practices, and competence when working with bilingual children or with children whose language or languages they do not speak. However, the extant survey studies have limitations. These limitations include small sample sizes (e.g., Arias & Friberg, 2017); recruitment from a restricted geographical region (e.g., Guiberson & Atkins, 2012; Kohnert et al., 2003); focus solely on SLTs' assessment practices (e.g., Caesar & Kohler, 2007); inclusion of primarily monolingual, White SLTs in the sample (e.g., Dubasik & Valdivia, 2021); absence of open-ended questions to explore SLTs' perceived needs as it relates to bilingualism (e.g., Kimble, 2013); and no indication of application of a methodologically rigorous approach to survey development such as the use of an expert review of the survey or cognitive interviews to verify the clarity and relevance of the survey items (e.g., Guiberson & Atkins, 2012; Kohnert et al., 2003).

Another major limitation of this body of literature is the lack of an explicit focus on comparing the extent to which SLTs' linguistic match with the bilingual children they serve impacts their confidence and competence when working with this population. Prior research in the field of education shows that children fare best academically and socially when their teachers share a linguistic and/or cultural background (Bristol & Martin-Fernandez, 2019; Gershenson et al., 2016; Hart & Lindsay, 2024; Redding, 2019). Thus, it is essential to examine the role that SLTs' linguistic match has when conducting assessment and delivering intervention. Even bilingual SLTs might benefit from additional support to assess and treat bilinguals who speak a language or languages they do not speak.

Purpose of the Present Study

The purpose of the present study is to expand on previous survey studies by describing responses to a questionnaire examining SLTs' self-reported training, confidence, and barriers when assessing and treating bilingual children, including those with whom SLTs do not share a common language. This survey extends previous work by including a large national sample of monolingual and bilingual SLTs, by incorporating both close-ended and open-ended questions that specifically inquire about SLTs' perceived needs when assessing and treating bilingual children, and by adopting a rigorously sound approach to survey development. Findings from this study could inform ASHA and university programs on the best ways to support both preservice and practicing SLTs as they strive to serve the growing population of bilingual children found in all areas of the United States.

The following research questions were addressed:

1. What are SLTs' training experiences, training desires, and resources related to the assessment and intervention of bilingual children?

2a. What are SLTs' reported levels of confidence when assessing and delivering intervention to bilingual children?

2b. Do SLTs differ in their reported level of confidence when assessing and delivering intervention to bilingual children by their language status?

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3a. What barriers do SLTs report experiencing when assessing and delivering intervention to bilingual children?

3b. Do SLTs differ in the barriers they report when assessing and delivering intervention by their language status?

Method

A rigorous multistage process was used to ensure that the *National Survey of SLTs' Training, Confidence, and Barriers When Serving Bilingual Children* was psychometrically sound. Content validity, internal structure validity, and internal consistency reliability of the survey were evaluated. Content validity procedures allowed for the adequate coverage of items on the survey in relation to SLTs' bilingual assessment and intervention practices (Messick, 1975). Internal structure validity analyses, also known as factor validity, informed the use of the survey for a specific purpose and determined how items were grouped together (Rios & Wells, 2014). Internal consistency reliability was calculated to check on the quality of the data (McCrae et al., 2011). All procedures are described prior to presenting study findings.

Survey Development

The *National Survey of SLTs' Training, Confidence, and Barriers When Serving Bilingual Children* was developed using recommended stages for instrument development (American Educational Research Association et al., 2014; McCoach et al., 2013). Content validity evidence was explored first. Content validity is the extent to which items represent the targeted construct (Haynes et al., 1995). The construct under investigation was the confidence, training, successes, and barriers experienced by SLTs assessing and treating bilingual children. The process used to generate and review the items played a critical role in enhancing the content validity of the questionnaire. Content validity was assessed using four approaches when creating the questionnaire: (a) identification of the purpose of the questionnaire and the target group (i.e., pediatric SLTs); (b) creation of a blueprint of questionnaire items; (c) expert panel review by six experienced SLTs with expertise in assessment and intervention of bilingual children; and (d) cognitive interviews with four monolingual and bilingual pediatric SLTs who worked in public school, private practice, and home health settings.

Identification of the Purpose of the Questionnaire

During the first stage, the purpose of the survey was identified, and existing surveys were reviewed (i.e., Arias & Friberg, 2017; Caesar & Kohler, 2007; Guiberson & Atkins, 2012; Hammer et al., 2004; Kohnert et al., 2003; Parveen & Santhanam, 2021; Roseberry-McKibbin et al., 2005; Williams & McLeod, 2012). Questions from previous surveys were adapted, and additional questions were added to identify whether SLTs' confidence and barriers changed depending on if they did or did not speak the children's languages. Thus, a thorough review of the literature was conducted to determine potential questions associated with SLTs' training, confidence, success, and barriers related to the assessment and intervention of bilingual children.

Creation of a Blueprint of Questionnaire Items

During Stage 2, the constructs and content domains were defined by three experienced pediatric SLTs and researchers (the first three authors) to create the initial item pool. This research team had background experiences working for large school districts and private practices on assessment and intervention of bilingual children. A test blueprint containing the initial version of the survey items was created with a total of 43 items covering the four domains identified in the literature: (a) demographic background, (b) populations served, (c) confidence when working with bilingual children, and (d) barriers related to assessing and treating bilingual children. These questions were drafted by applying literature and guidelines associated with recommended practices for bilingual assessment and intervention (e.g., Gutiérrez-Clellen et al., 2008; Kohnert et al., 2003; Peña et al., 2020).

Expert Panel Review

In Stage 3, six experts reviewed the survey items. Experts who authored publications on bilingual assessment and intervention and/or who worked in higher education as graduate-level clinical instructors were e-mailed and asked to review the survey items. These expert reviewers had an average of 16 years of experience working in the field of speech-language pathology, with a range between 10 and 30+ years. The expert panel gave feedback on the survey items via a questionnaire addressing: (a) the adequacy and clarity of content coverage and (b) the relevance of the item content for the proposed instrument. Experts were asked to provide their feedback on whether items should be eliminated or reworded too. Expert reviewers rated all items on the survey, and a traditional item analysis of the ratio of the expert panel relevance and clarity ratings was calculated to determine the content validity index for each of the items. The number of experts who provided ratings of clear or very clear, or relevant or very relevant, for an item was divided by the total number of experts who rated the item. Nineteen of the 43 items (44%) did not meet the 80% or higher reviewer agreement criterion of 80% or more of reviewers

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rating the item as clear/very clear or relevant/very relevant. After further review of these items, four items were removed (e.g., items related to how SLTs learned the non-English language when relevant), and the rest of the items were retained, but revisions were made to improve their clarity. The experts also suggested adding three additional open-ended questions corresponding to successes and barriers experienced by SLTs when working with bilinguals. The research team added 12 close-ended items to the survey. The rating scale items added included close-ended questions where SLTs could indicate their level of agreement with statements about conducting assessment and delivering intervention when they are linguistically matched (speak the language) versus when they are not linguistically matched (do not speak the language). All the revisions and additions were made to the survey prior to beginning cognitive interviews.

Cognitive Interviews

During Stage 4, cognitive interviews were held via Zoom with four pediatric SLTs (two bilingual, two monolingual) from across the United States who worked in a variety of settings (school-based, private practice, home health, and university clinical settings). Participants received an e-mail copy of the survey prior to beginning the interview, and interviews were co-conducted with two authors using both think-aloud and verbal prompting procedures (Willis, 1999). Participants read each survey question and then shared their interpretation about what it meant. They provided feedback on every item, including suggestions on how to revise any unclear questions. Participants also answered each of the survey items, noted where they felt items were not relevant to their position, and shared additional items that they thought should be added to the survey. Further revisions to the questionnaire were made following completion of the cognitive interviews. These included revising the wording of five questions and adding one question about the types of resources that SLTs found most helpful when assessing and/or treating emergent bilinguals. The research team also added one open-ended item about where in the United Sates the SLTs worked and close-ended items about confidence during assessment of children when SLTs are linguistically matched and when SLTs are not linguistically matched for a total of three new items.

The revised questionnaire found in Supplemental Material S1 was entered into Qualtrics to prepare for the dissemination to SLTs across the United States. The final questionnaire consisted of four sections: (a) questionnaire eligibility, (b) demographic information, (c) close-ended items related to assessment and intervention of bilinguals and training, and (d) open-ended questions where SLTs could provide additional information about their experiences and support they needed. Prior to broadly distributing the Qualtrics link, the authors used the preview feature to make sure all items were functioning appropriately.

The Checklist for Reporting Results of Internet E-Surveys (Eysenbach, 2004) was consulted to describe survey dissemination and reporting of responses. The survey was shared using convenience sampling. An infographic and short description explaining the survey invited all pediatric monolingual and bilingual SLTs who assessed and delivered intervention to bilingual children to complete the questionnaire. This was posted 52 times on social media (i.e., groups on Facebook and Instagram accounts that are frequently accessed by school-based SLTs [e.g., Bilingual SLTs, SLTs for Evidence-Based Practice]) during a 23-day period from January 29, 2021, through February 20, 2021.

Participants

A total of 1,149 SLTs began the survey after reviewing the authorization to complete the survey approved by the institutional review board (STUDY00146226). The authorization notified participants of the approximate completion time (between 10 and 15 min), shared contact information for the principal investigator, made them aware of the purpose of the study, shared that their de-identified data would be stored in a secure online database, and indicated that 100 participants who provided their e-mail would be randomly selected to receive a $10 debit card (Eysenbach, 2004). Six hundred eighty-six participants met inclusion criteria by having a master's or doctoral degree in speech-language pathology, working directly with children (0–21 years old) for at least 10 hr a week, and living in the United States (including U.S. territories). Of these 686 survey participant responses, 119 responses were excluded because participants did not complete more than 50% of the survey, took less than 120 s to finish the survey, answered only the demographic questions, or served more than 200 children per week (Eysenbach, 2004).

A total of 567 responses were included in analyses. Table 1 provides an overview of participants' demographic variables. The SLTs who completed the survey represented 44 states with 17 (3%) working in two or more states. The majority had their Certificate of Clinical Competence (87%). Over half of the SLTs (60.5%) were monolingual. The representation of the demographic backgrounds reported by the SLTs who completed this survey appeared to represent a more diverse group than data reported in the 2023 ASHA Member and Affiliate profile (e.g., in 2023, 90% of SLTs who participated were White), and the representation of bilingual SLTs who completed the survey was much higher than the national average of SLTs in 2023 who reported being bilingual (7%). This

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Table 1. Demographic characteristics of speech-language therapists (SLTs) who completed the survey.

Position	*n*	Race/ethnicity	*n*	Location	*n*	Work setting	*n*	Years of experience	*n*
Certified therapist	495	African American/ Black	22	Midwest	93	Educational	324	0–1	59
Clinical fellow	72	Asian/Pacific Islander	20	Northeast	93	Clinical	324	2–5	172
		Latine(o/a)	87	South	204	More than one setting	81	6–9	110
		Middle Eastern	1	West	180		161	10–15	86
		Multiracial	31					16–20	44
		Native American	1					21–25	45
		White	385					> 25	51

Note. Nineteen SLTs choose not to report their race/ethnicity, one SLT choose not to report their work setting, and three SLTs indicated that they currently practiced in states in two or more different regions. The states within each region are as follows: Midwest (IL, IN, KS, MI, MN, MO, NE, ND, OH, and WI), Northeast (CT, ME, MA, NH, NJ, NY, PA, and RI), South (DE, MD, VA, WV, KY, NC, SC, TN, GA, FL, AL, MS, AR, LA, TX, and OK), and West (ID, CO, NM, AZ, UT, NV, CA, OR, WA, and AK).

higher proportion may stem from bilingual SLTs' interest in the topic of bilingualism.

Data Analysis

One hundred five (18.5% of participants) did not complete the entire questionnaire. Item nonresponse can never be completely prevented when conducting survey research where participants can choose items to complete. The partial nonresponse data were included so that information was not lost and the most efficient estimates could be made (de Leeuw et al., 2003). Thus, the total number of participants who answered an individual survey question ranged from 452 to 567 per question. All available data were used to examine the internal structure of the survey. The factor analysis model was estimated using full information maximum likelihood, allowing for all available data to be used.

Questionnaire Factor Structure

The hypothesized three-factor model was tested through confirmatory factor analysis of the 34 close-ended items measured by a 5-point scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, and 5 = *strongly agree*) using Mplus 8.3 and the weighted least square mean and variance-adjusted estimator (Muthén & Muthén, 2019). When factors are theoretically defined and loadings onto specific factors are hypothesized before testing, confirmatory factor analyses are recommended (Wang & Wang, 2012). According to Brown (2006), factor loadings of 0.30–0.40 are considered the minimum acceptable cutoff, but ideally, loadings should be 0.50 or higher to indicate a strong relationship. Factor loadings of the survey items ranged from 0.45 to 0.89. These results satisfy the conventionally accepted cutoff value and are reported for each item in a table found in Supplemental Material S2. The first factor, linguistically matched, included 12 items, with both unstandardized and standardized loadings ranging from 0.72 to 0.89. The second factor, not linguistically matched, included 12 items, with both unstandardized and standardized loadings ranging from 0.50 to 0.86. The third factor, barriers when not linguistically matched, included 10 items with unstandardized and standardized loadings ranging from 0.45 to 0.79. Evaluation of the fit indices for the proposed model indicated good data fit: $\chi^2(3,112.23)$, $p = .00$; comparative fit index = .92; root-mean-square error of approximation = 0.09 (confidence interval [0.09, 0.10]), and standardized root-mean-square residual = 0.014. Internal consistency reliability estimates (as measured by Cronbach's alpha) for each of the three factors were as follows: Factor 1 (*linguistically matched*) $\alpha = .95$, Factor 2 (*not linguistically matched*) $\alpha = .93$, and Factor 3 (*barriers*) $\alpha = .83$

Results

After the *SLT Training, Confidence, and Barriers When Serving Bilingual Children Survey* was developed and validated, responses to the questions were analyzed descriptively. Descriptive statistics for the number of responses and percentage of respondents in each response category are reported for all of our items. Our findings are organized to address each of the three research questions: (a) training experiences, training desires, and resources related to the assessment and intervention of bilingual children; (b) SLTs' levels of confidence when assessing and delivering intervention to bilingual children and if responses differ by their reported language status (i.e., when SLTs' spoke the same language or languages as children vs. when they did not); and (c) barriers that SLTs report experiencing when assessing and delivering intervention to bilingual children and if responses differ by their reported language status.

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Training Experiences

SLTs shared the types of training they had previously received corresponding to bilingual assessment and intervention as well as how they learned the information (i.e., undergraduate courses inside and outside communication sciences and disorders/speech, language, and hearing department; master's level coursework/clinical training; doctorate-level coursework/research; in-service, continuing education units [CEUs], webinars; websites such as Bilinguistics). They were given the opportunity to select if they did not learn about a topic and the way(s) that they accessed training. Table 2 contains the responses from up to 453 participants who shared their training experiences. SLTs most often had access to training in the area of language disorders versus language difference; only eight respondents (2%) indicated that they did not learn about this topic. SLTs' least frequent training opportunity (only 22% of respondents) covered how to work with caregivers when SLTs did not speak the same language. SLTs reported receiving the majority of their training at the master's level or through in-service training, CEUs, and webinars. For the topic of language difference versus disorder, most SLTs reported receiving training at the undergraduate level (42%), master's level (81%), in-service and CEUs (64%), and through websites such as Bilinguistics (42%).

Perceived Effectiveness of Training Delivery Method

A total of 462 SLTs responded to an item that asked them to rank order methods for training delivery from most effective to the least effective. Results can be found in Table 3. SLTs found coaching (virtual or in-person) to be most effective, followed by online modules, then information on websites or blogs. The least effective approaches were textbooks followed by research articles.

Training Desires

A total of 452 SLTs responded to an item asking them to rank order professional development topics from most impactful to least impactful. Results can be found in Table 4. SLTs found that typical bilingual language development and conducting bilingual assessments including the use of informal measures (e.g., dynamic assessments, language samples) were the most impactful topics and that how to work with interpreters was the least impactful topic.

Resources for Assessment and Treatment

Between 319 and 411 SLTs indicated having access to resources for assessment and/or intervention when they did not speak the child's language or languages. The results can be found in Table 5. SLTs most frequently (97.8%) reported that they worked with an interpreter when conducting assessment. Between 39.3% and 54.9% of the SLTs who responded had access to the resources for both assessment and intervention. Slightly more than half of SLTs (54.9%) shared they worked with a bilingual SLT who spoke the child's home language. The remaining respondents only had access to these types of resources during assessment or intervention, but not for both assessment and intervention.

SLTs' Levels of Confidence Assessing and Delivering Interventions

Twenty-four items were developed to measure SLTs' perceived confidence when assessing and delivering interventions to bilingual children. Table 6 shows the mean, standard deviation, skewness, and kurtosis for these items measured by the 5-point scale. Additionally, means were computed for each group of SLTs, and a *t* test was conducted to determine if differences existed in the responses of monolingual SLTs' responses as compared to bilingual SLTs. These results can be found in Table 7.

All SLTs

Mean scores for the items on the linguistically matched subscale ranged from 3.27 to 4.04, and mean scores on the nonlinguistically matched subscale for assessment and intervention ranged from 2.55 to 3.85 (see Table 6). The items with the lowest and highest means were the same on each of these subscales. The item with the lowest mean was, "When available, I am confident administering valid standardized assessments for bilingual children." The item with the highest mean was, "I am confident collaborating with my colleagues (example: other bilingual SLPs, ESOL [English as a Second or Other Language] teacher) when treating bilingual children."

SLTs Grouped by Language Status

Mean scores for monolingual SLTs on the items on the linguistically matched subscale ranged from 2.70 to 3.72, and mean scores on the nonlinguistically matched subscale for assessment and intervention ranged from 2.19 to 3.77 (see Table 7). The items with the lowest mean and highest mean for monolingual SLTs remained the same as those reported above when they were ranked by all SLTs. Mean scores for bilingual SLTs ranged from 2.34 to 4.48 (see Table 7). The item with the lowest mean on the linguistically matched scale remained the same; however, this mean was 4.05, indicating that when linguistically matched, SLTs were confident in selecting

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Table 2. Training experiences.

Area of focus	Did not learn this topic	Undergraduate courses inside and outside CSD/SLH department	Master's level coursework/clinical training	Doctorate-level coursework/research	In-service, CEUs, webinars	Websites such as Bilinguistics	Total responses
Language disorders vs. language difference	8 (2%)	239 (53%)	366 (81%)	32 (7%)	288 (64%)	189 (42%)	453
Typical bilingual language acquisition	25 (6%)	172 (39%)	291 (66%)	30 (7%)	280 (63%)	202 (45%)	444
Assessing bilingual children	27 (6%)	91 (21%)	250 (59%)	28 (7%)	265 (62%)	175 (41%)	426
How to work with caregivers when you do not speak their language	91 (22%)	69 (17%)	161 (40%)	21 (5%)	201 (50%)	105 (26%)	405
Working with an interpreter	68 (17%)	75 (19%)	197 (49%)	14 (3%)	194 (48%)	99 (25%)	402
How to support bilingual children's use of their home language in therapy	74 (19%)	68 (17%)	179 (45%)	18 (5%)	206 (52%)	123 (31%)	397

Note. CSD = communication sciences and disorders; SLH = speech, language, and hearing; CEU = continuing education unit.

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Table 3. Preferred training delivery modality.

Modality	1	2	3	4	5	6
Online modules	120 (26%)	200 (43.3%)	70 (15.2%)	40 (8.7%)	27 (5.8%)	5 (1.1%)
Coaching (virtual or in-person)	253 (54.8%)	94 (20.3%)	52 (11.3%)	35 (7.6%)	19 (4.1%)	9 (1.9%)
Handouts	8 (1.7%)	41 (8.9%)	107 (23.2%)	150 (32.5%)	108 (23.4%)	48 (10.4%)
Textbooks	6 (1.3%)	15 (3.2%)	37 (8%)	58 (12.6%)	129 (27.9%)	217 (47%)
Information on websites or blogs	35 (7.6%)	73 (15.8%)	122 (26.4%)	104 (22.5%)	62 (13.4%)	66 (14.3%)
Research articles	40 (8.7%)	39 (8.4%)	74 (16%)	75 (16.2%)	117 (25.3%)	117 (25.3%)

Note. 1 = *most effective*; 6 = *least effective*.

standardized assessments. The item with the highest mean was, "I am confident incorporating children's home language (example: Spanish) into therapy during intervention"; however, this was the item with the lowest mean on the nonlinguistically matched subscale, and the item with the highest mean still remained, "I am confident collaborating with my colleagues (example: other bilingual SLPs, ESOL [English as a Second or Other Language] teacher) when treating bilingual children." There were significant differences on the responses from the two different groups of SLTs surveyed on all items related to assessment and intervention.

Barriers Experienced by SLTs

Ten items were developed to measure the barriers experienced by SLTs' confidence when assessing and delivering interventions to bilingual children. Table 6 shows the mean, standard deviation, skewness, and kurtosis for the 34 items measured by the 5-point scale. Additionally, means were computed for each group of SLTs, and a *t* test was conducted to determine if differences existed in the responses of monolingual SLTs' responses as compared to bilingual SLTs. These results can be found in Table 7.

All SLTs

Mean scores from the responses from all SLTs on the barriers subscale ranged from 2.54 to 4.06. The item with the lowest overall mean was, "I have limited access to information on how bilingualism impacts children with communication impairments." The item with the highest overall mean was, "There is limited access to valid assessment instruments for children who are bilingual in my work setting."

SLTs Grouped by Language Status

Only six of the 10 items (60%) corresponding to barriers experienced appeared to be significantly different for monolingual versus bilingual SLTs. Mean scores for

Table 4. Speech-language therapists' rating on their desires for training based on impactfulness of trainings by topic.

Topic	1	2	3	4	5	6	7
Typical bilingual language development	162 (35.8%)	82 (18.1%)	64 (14.2%)	51 (11.3%)	44 (9.7%)	24 (5.3%)	25 (5.5%)
Conducting bilingual assessments, including the use of informal measures (e.g., dynamic assessments, language samples)	102 (22.6%)	101 (22.3%)	104 (23%)	74 (16.4%)	33 (7.3%)	22 (4.9%)	16 (3.5%)
Language difference versus language disorders in bilingual children	46 (10.2%)	102 (22.6%)	89 (19.7%)	66 (14.6%)	63 (13.9%)	58 (12.8%)	28 (6.2%)
How to support children's bilingual language development when you do not speak their home language	74 (16.4%)	55 (12.2%)	48 (10.6%)	58 (12.8%)	72 (15.9%)	72 (15.9%)	73 (16.2%)
How to compare the features (grammar, phonology) of English to other languages	20 (4.4%)	49 (10.8%)	81 (17.9%)	100 (22.1%)	107 (23.7%)	61 (13.5%)	34 (7.5%)
How to apply cultural humility/cultural competence when working with bilingual children and their caregivers	39 (8.6%)	47 (10.4%)	45 (10%)	62 (13.7%)	71 (15.7%)	107 (23.7%)	81 (17.9%)
How to work with interpreters	9 (2%)	16 (3.5%)	21 (4.6%)	41 (9.1%)	62 (13.7%)	108 (23.9%)	195 (43.1%)

Note. 1 = *most impactful*; 7 = *least impactful*.

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Table 5. Resources available for assessment and treatment.

Resource	Assessment	Treatment	Assessment and treatment	Total respondents
Professional translator/interpreter	220 (53.5%)	9 (2%)	182 (44.3%)	411
Family member that serves as a translator/interpreter	103 (30.4%)	102 (30.2%)	133 (39.3%)	338
Other colleague who speaks the child's home language (e.g., assistant, teacher, paraprofessional)	94 (28.5%)	64 (19.4%)	172 (52.1%)	330
Bilingual speech-language therapist who speaks the child's home language	117 (36.7%)	27 (8.5%)	175 (54.9%)	319

monolingual SLTs on the barriers subscale ranged from 2.71 to 4.33. Monolingual SLTs agreed that their greatest barrier was not speaking the child's or family's language. Means for bilingual SLTs ranged from 2.34 to 4.05. The item with the lowest mean for both monolingual and bilingual SLTs was "I have limited access to information on how bilingualism impacts children with communication impairments," whereas the item with the highest mean for bilingual SLTs

Table 6. Descriptive statistics according to questionnaire responses.

Subscale	Item	*n*	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)	*M*	*SD*	SK	KU
Linguistically matched	17	567	11.10	15.00	17.60	36.20	20.10	3.39	1.27	−0.50	−0.83
	18	564	15.80	14.50	17.90	30.70	21.10	3.27	1.36	−0.37	−1.10
	19	564	10.10	9.60	16.80	40.60	22.90	3.57	1.23	−0.76	−0.35
	20	565	11.50	14.30	17.70	38.40	18.10	3.37	1.26	−0.53	−0.78
	21	566	7.10	9.70	21.00	40.50	21.70	3.60	1.14	−0.73	−0.15
	22	566	7.10	8.10	17.70	45.90	21.20	3.66	1.11	−0.90	0.22
	23	566	8.80	16.80	19.80	31.10	23.50	3.44	1.26	−0.42	−0.89
	31	487	6.00	4.90	18.70	39.00	31.40	3.85	1.10	−1.00	0.53
	32	483	6.80	8.90	16.80	42.00	25.50	3.70	1.14	−0.86	0.04
	33	484	9.30	10.33	17.36	29.75	33.26	3.67	1.29	−0.72	−0.56
	34	484	5.20	2.90	13.60	39.30	39.00	4.04	1.05	−1.30	1.45
	35	484	6.60	9.70	18.00	36.80	28.90	3.72	1.17	−0.79	−0.19
Not linguistically matched	24	528	17.23	31.06	20.08	25.57	6.06	2.72	1.19	0.15	−1.06
	25	528	22.20	33.50	19.10	17.80	7.40	2.55	1.22	0.43	−0.85
	26	528	12.69	21.78	16.86	37.69	10.98	3.12	1.24	−0.29	−1.06
	27	528	13.40	26.90	21.00	32.40	6.30	2.91	1.17	−0.10	−1.08
	28	528	8.00	20.10	23.10	39.00	9.80	3.23	1.12	−0.38	−0.74
	29	528	9.66	17.61	21.59	41.48	9.66	3.24	1.14	−0.48	−0.71
	30	528	14.58	31.82	18.75	27.08	7.77	2.82	1.21	0.12	−1.08
	36	487	10.90	26.90	19.10	34.90	8.20	3.03	1.18	−0.15	−1.06
	37	487	11.50	30.60	20.70	30.40	6.80	2.90	1.16	0.00	−1.05
	38	487	17.70	34.10	20.10	19.50	8.60	2.67	1.22	0.34	−0.90
	39	487	4.30	9.90	10.30	47.20	28.30	3.85	1.07	−1.04	0.49
	40	487	12.90	30.40	19.50	25.70	11.50	2.92	1.24	0.10	−1.09
Barriers	43	462	1.95	8.22	12.99	35.5	41.34	4.06	1.02	−1.03	0.39
	44	462	3.20	16.00	15.60	37.70	27.50	3.70	1.13	−0.61	−0.60
	45	462	11.50	35.10	20.30	22.70	10.40	2.85	1.20	0.24	−0.98
	46	462	3.00	8.90	11.00	39.40	37.70	4.00	1.06	−1.07	0.52
	47	461	3.30	10.40	16.50	31.20	38.60	3.92	1.12	−0.84	−0.19
	48	460	14.60	43.90	19.10	17.40	5.00	2.54	1.09	0.54	−0.53
	49	462	12.10	22.70	15.20	28.80	21.20	3.24	1.34	−0.22	−1.21
	50	459	9.37	23.10	18.95	28.76	19.82	3.27	1.27	−0.20	−1.11
	51	461	7.80	17.60	19.10	31.20	24.30	3.47	1.25	−0.43	−0.90
	52	462	6.06	14.50	14.72	32.25	32.47	3.71	1.23	−0.68	−0.62

Note. SK = skewness; KU = kurtosis.

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Table 7. Results reported by speech-language therapists based on their language status.

Subscale	Item	Monolingual *M*(*SD*)	Bilingual *M*(*SD*)	*t* value	*df*
Linguistically matched	17	2.96(1.25)	4.05(0.99)	–11.07***	565
	18	2.70(1.29)	4.13(0.97)	–14.086***	562
	19	3.19(1.25)	4.14(0.94)	–9.812***	562
	20	2.88(1.23)	4.13(0.86)	–13.21***	563
	21	3.20(1.12)	4.21(0.85)	–11.53***	564
	22	3.30(1.12)	4.21(0.85)	–10.36***	564
	23	2.90(1.16)	4.25(0.91)	–14.71***	564
	31	3.38(1.10)	4.43(0.78)	–11.90***	485
	32	3.17(1.12)	4.36(0.78)	–13.32***	481
	33	3.02(1.22)	4.48(0.83)	–15.09***	482
	34	3.72(1.14)	4.44(0.77)	–7.93***	482
	35	3.19(1.13)	4.36(0.85)	–12.63***	482
Not linguistically matched	24	2.45(1.15)	3.10(1.15)	–6.49***	526
	25	2.19(1.07)	3.05(1.24)	–8.55***	526
	26	2.79(1.22)	3.6(1.11)	–7.87***	526
	27	2.66(1.12)	3.26(1.15)	–5.95***	526
	28	2.95(1.11)	3.61(1.02)	–6.88***	526
	29	3.02(1.16)	3.54(1.06)	–5.24***	526
	30	2.62(1.6)	3.10(1.22)	–4.60***	526
	36	2.71(1.12)	3.42(1.13)	–6.92***	485
	37	2.63(1.07)	3.25(1.17)	–6.13***	485
	38	2.44(1.11)	2.97(1.28)	–4.87***	485
	39	3.77(1.12)	3.96(1.0)	–2.01*	485
	40	2.69(1.16)	3.22(1.28)	–4.85***	485
Barriers	43	4.07(1.02)	4.05(1.03)	0.15	460
	44	3.79(1.07)	3.60(1.20)	1.81	460
	45	3.09(1.15)	2.57(1.20)	4.7***	460
	46	4.22(0.96)	3.73(1.11)	5.04***	460
	47	4.33(0.84)	3.41(1.21)	9.66***	459
	48	2.71(1.07)	2.34(1.09)	3.66***	458
	49	3.23(1.40)	3.26(1.27)	–0.25	460
	50	3.37(1.26)	3.14(1.28)	1.92	457
	51	3.57(1.18)	3.34(1.32)	2.03*	459
	52	3.89(1.21)	3.48(1.22)	3.60***	460

*$p \leq .05$. ***$p \leq .001$.

was the limited access to valid assessment instruments for children who are bilingual at their work settings.

Discussion

The purpose of this study was to describe monolingual and bilingual SLTs' self-reported training, confidence, and barriers when assessing and treating bilingual children. The findings of the present study contribute to our fields' understanding of how to validate surveys using rigorous methodologies and provide insight on how to support SLTs' capacity to implement culturally and linguistically sustaining practices. This current survey is also the first of its kind to compare SLTs' perceived confidence when they are linguistically matched versus unmatched, adding nuance to the current understanding of SLTs' confidence and competence when serving bilingual children. Findings from the 567 SLTs who responded to the survey indicated that ongoing training is needed for SLTs to support bilingual children on their caseload, especially to communicate with families who speak languages other than English and embed children's home language in therapy sessions. While bilingual SLTs were more confident in serving bilingual children as compared to monolingual SLTs, both groups identified inadequate resources, along with other barriers that impacted their confidence and competence.

Training Experiences, Desires, and Resources

The survey results revealed that most SLTs reported receiving the bulk of training on distinguishing language differences from disorders. These findings are in line with

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Perez Valle et al. (2023), who found that the topic of language differences versus disorder was the primary focus of SLTs' credentialing in both the United States and Canada. Distinguishing whether children who are bilingual have a true communication disorder is an important aspect of providing appropriate SLT services, especially because many bilingual children are misrepresented (over- or underidentified) in special education (Artiles et al., 2005; DeMatthews et al., 2014). It is important to note that instead of focusing on whether bilingual children have a communication difference versus disorder as compared to monolingual children, a better approach is for SLTs to determine whether a bilingual child has a communication disorder when compared to other bilingual children (Oetting, 2018). Expanding efforts to ensure that all preservice and practicing SLTs can correctly distinguish communication disorder from expected bilingual development is critical. It is also important for SLTs to receive training on how to provide culturally and linguistically sustaining SLT services. For SLTs to provide these culturally and linguistically sustaining services, it is imperative for training to include topics such as how to work with interpreters, how to partner with caregivers when they do not speak the therapist's language or languages, how to embed children's home language and cultures in therapy, translanguaging, and the inclusion of children who are bilingual with communication disorders in dual language education. It is necessary for SLT training to include how to conduct valid bilingual assessments, as well as how to provide therapy to bilingual children once they are diagnosed with a communication disorder.

In addition to training experiences, the survey also contained questions related to the resources that SLTs have when assessing and/or treating bilingual children. The findings of the survey revealed that just over 50% of SLTs who completed the survey reported receiving the most support by having access to professional interpreters during assessment. In addition, only 50% of SLTs reported having access to professional interpreters during both assessment and intervention. Of these SLTs receiving support during assessment and intervention, SLTs reported having access to other colleagues who spoke children's home language or bilingual SLTs who spoke children's home language. Given that only half of SLTs have access to interpreters when conducting assessment and intervention to bilingual children, it is important to ensure that all SLTs have access to publicly available resources on how to assess and provide services to bilingual children, even when they do not share their language or languages.

Confidence

The survey results revealed that SLTs self-reported feeling more confident when assessing and treating children who shared their same languages (i.e., linguistically matched) than when they did not share the same language (i.e., linguistically unmatched). All SLTs, regardless of whether they were monolingual or bilingual, reported feeling the most confident collaborating with colleagues and the least confident administering standardized assessments. However, there were statistically significant differences in SLTs' confidence when assessing and treating bilingual children. Only bilingual SLTs reported high levels of confidence incorporating children's home language into the therapy session when the SLTs and family members shared a spoken language or languages. It makes sense that SLTs who share the language of the children and families they serve would feel comfortable when they share their language or languages. The findings of this study highlight that future training at the preservice and professional level should include explicit content to enhance SLTs' competence when providing services to children and families when they do not share the same language or languages.

In terms of SLTs' general self-reported confidence across skills, the findings of this survey are consistent with previous survey studies that also found that SLTs did not feel confident conducting bilingual assessments (i.e., Arias & Friberg, 2017; Guiberson & Atkins, 2012; Kritikos, 2003; Parveen & Santhanam, 2021). For example, Kritikos (2003) found that 71% of SLTs did not feel confident assessing bilingual children. It is important to note that our current findings are in line with this study conducted two decades ago. Given that SLTs' eligibility determinations can have a consequential impact on the trajectory of bilingual children's lives (NCSE, 2024), it is imperative that all SLTs are equipped with the training and resources to increase their competence when assessing and treating bilingual children. This pressing gap in SLTs' training is critical, as limited training can have a negative impact on bilingual children and their families.

Barriers

The results of this survey indicated that SLTs reported that lack of access to bilingual assessments was the biggest barrier, and having information about how bilingualism impacts children with communication disorders was the least identified barrier. These findings are in line with the previous survey studies that found that SLTs cited having limited access to bilingual assessments as a major barrier when working with bilingual children (Guiberson & Atkins, 2012). In recent years, bilingual researchers and educators have proposed alternative, more appropriate ways of assessing bilingual children. For example, Castilla-Earls et al. (2020) recommend using a converging evidence approach. Converging evidence refers

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to the notion that multiple pieces of assessment data must be in alignment and follow a similar trend to make a diagnostic decision. These multiple types of data can include a combination of language experience questionnaires, speech and language samples, bilingual language sample analysis using large-scale databases, dynamic assessment, and other assessments valid for bilingual children. In addition, Ascenzi-Moreno (2018) and Anaya et al. (2018) recommend using conceptual scoring to capture what children know across their languages to gather a more accurate picture of bilingual children's skills. It is important for SLTs to have skills on how to implement assessment approaches such as converging evidence and conceptual scoring to conduct valid bilingual assessments. One potentially system-level approach to mitigate the barrier around assessment is for states to create comprehensive guides on how to implement a converging evidence approach when assessing bilingual children with suspected communication disorders, as well as how to provide them with culturally and linguistically sustaining services once they are identified. To date, California is the only state that has created a comprehensive guide on how to evaluate, and provide intervention to bilingual children with suspected or identified disabilities (Soto-Boykin et al., 2023). California's Practitioners' Guide for Educating English Learners with Disabilities was released in 2019, after the state codified Education Code 56305 (2023), requiring that the California Department of Education develop a manual to provide local education agencies with guidance on how to evaluate emergent bilinguals. California serves as an example of how states can create laws to ensure that they have comprehensive guidance on the process of conducting bilingual assessments. Creating similar state-level laws and guidance helps ensure that all children who are bilingual with suspected disabilities are assessed in valid ways.

Limitations

Although the current survey study has a number of strengths, it also has limitations that warrant consideration. First, because convenience sampling was used, it is unclear if the answers provided by those who chose to complete the questionnaire are representative of the responses of the entire population of SLTs. We recognize that the percentage of bilingual SLTs who completed the survey was much higher than the national average of SLTs in 2023 who reported being bilingual (7%). A rate of return could not be calculated because of the methods used to distribute the survey (Eysenbach, 2004). The missing data that resulted because participants discontinued the questionnaire could have also biased these results.

Second, the survey does not explicitly include newer topics related to providing assessment and intervention to bilingual children including anti-bias/anti-racism/anti-ableism; translanguaging; and the intersections of disability, language, and race. The importance of embedding these concepts into SLTs' work with children and families has received attention in recent years after the survey was developed and administered. Future iterations of the survey will explicitly include these important equity-focused concepts. For example, the survey could have questions about SLTs' knowledge and training on translanguaging and the extent to which they apply a translanguaging stance during assessment and intervention.

A third limitation of the current study is that the survey was designed to gather a general sense of SLTs' training and skills when assessing and providing interventions to bilingual children through self-reporting. Future research is needed to determine the sensitivity and appropriateness of this survey to measure SLTs' progress in their confidence and competence when working with bilingual children over time. Future research should also include observations of SLTs conducting assessments and interventions with bilingual children, as well as assessments of SLTs' knowledge of appropriate bilingual assessment procedures.

Implications

The results of the present study are consistent with survey studies conducted nearly a decade ago. This consistency in findings across the span of a decade underscores a continued gap in most SLTs' training. This limited training across hundreds of SLTs from all over the United States reveals the need to address this topic of bilingual assessment and intervention in a systematic manner. To accomplish this, it is important to explicitly include bilingualism at all levels that impact SLTs' training and competence when working with bilingual children. These levels include ASHA, institutes of higher education (IHEs), state licensing agencies, and research funding organizations. Implications are presented below:

ASHA

- Revise the CAA Standards (2023) to explicitly include that programs must provide its graduate SLT students with training on the assessment and intervention of children and adults who are bilingual or who speak a language other than English.
- Revise the Standards for the Certificate of Clinical Competence in Speech-Language Pathology (ASHA, n.d.-a) to explicitly include requirements related to the assessment and intervention of bilingual children and/or adults. These revisions should include the following:
    - Revising Standard IV-C to explicitly include that applicants must demonstrate knowledge

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of bilingual language development, assessment, and intervention.

- Revising Standard V-C to state that a proportion of the 400 clock hours of supervised clinical experience should be allocated to assessing and providing intervention to bilingual children and/or adults, using clinical simulations when in-person practice is not feasible.

- Require that practicing SLTs obtain ongoing continuing education credit related to bilingualism, including asset-based framings of bilingualism, bilingual language development, bilingual assessment, and intervention.
  - This requirement should not be part of the existing requirement on "cultural humility, cultural responsiveness, diversity, inclusion, and equity" as these topics are relevant, but not necessarily specific to bilingualism.
  - Provide SLTs with free online courses on bilingual assessment and intervention to reduce the barrier of SLTs' not accessing training due to financial constraints.

SLT State Licensure Agencies

- Require training on bilingual assessment (e.g., converging evidence approach; dynamic assessment, use of language use questionnaires, etc.) and intervention as part of the licensing standards for newly licensed SLTs.
- Require that SLTs renewing their state license receive training on bilingualism during each renewal cycle.

IHEs

- IHEs should revise their programs of study to ensure that preservice SLTs have the training they need to effectively assess and treat bilingual children. This training should be comprehensive and include an array of relevant topics including language ideologies, asset-based framings of bilingualism, dynamic assessment, working with interpreters, assessments, and culturally sustaining therapy approaches.
- Ensure that the program of study integrates the topic of bilingualism in all relevant coursework (e.g., bilingualism and phonology, bilingualism and language learning, etc.), rather than only addressing the topic in one lecture or for an elective course like multicultural issues.
- Provide faculty with professional development to expand their knowledge on bilingualism and culturally sustaining approaches and to integrate topics around bilingualism in their syllabi and course content.
- Provide graduate SLT clinicians with opportunities to assess and treat bilingual children as part of their clinical rotations.

Research Funding Agencies

- Create specific Requests for Applications focusing on advancing our current understanding of how to effectively assess and provide culturally and linguistically sustaining intervention to bilingual children.
  - Prioritize funding research to develop and validate asset-focused assessments aligned with current research on bilingualism, such as measures that account for translanguaging and apply conceptual scoring.
  - Prioritize funding for research teams that includes the perspectives and/or expertise of bilingual researchers who are insiders in the communities involved in the research study.

Conclusions

Bilingual children comprise a major proportion of the population that SLTs work with across all work settings and regions of the United States. Unfortunately, both the findings of the current survey and the findings from previous surveys conducted decades before reveal that, overall, SLTs have limited training and reduced confidence when assessing and treating bilingual children, especially when they do not speak children's language or languages. To advance the field of speech and language therapy, it is imperative for ASHA, universities, state licensure boards, and research agencies to prioritize focus on bilingualism. Delaying this explicit attention to bilingualism will yield more SLTs who, although desiring to meaningfully support children's linguistic and cultural identities, do not have the concrete training or resources to do so effectively.

Data Availability Statement

Survey items can be found in the article's supplemental materials. The data that support the findings of this study are available from the corresponding author, Meaghan McKenna, upon reasonable request.

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